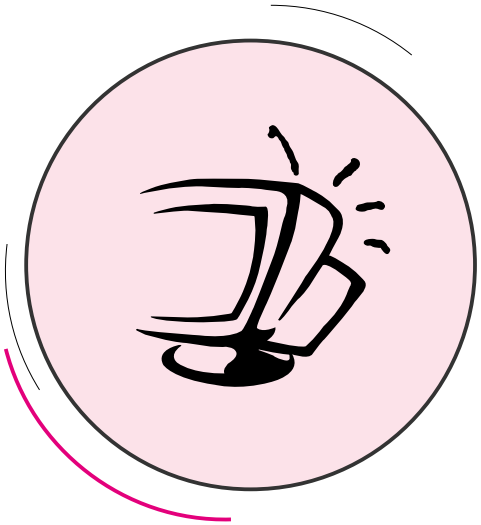
User's Manual

Hansol
Electronics

19 Inch (Viewable size 18″)

High Resolution Color Monitor

(B19BL)



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FCC Information

This equipment has been tested and found to comply with limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful inteference to radio Communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause unacceptable interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV technician for help.

DECLARATION OF CONFORMITY

PRODUCT NAME : 19" COLOR MONITOR
MODEL NUMBER : B19AL
FCC RULES : TESTED TO COMPLY WITH FCC PART 15, CLASS B
OPERATING ENVIRONMENT : FOR HOME OR OFFICE USE
FCC COMPLIANCE STATEMENT :
This device complies with part 15 of FCC Rules. Operation is subject to the following two conditions : (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

THE PARTY RESPONSIBLE FOR PRODUCT COMPLIANCE
HANSOL MULTITECH, INC.
7001, VILLAGE DRIVE, SUITE 255, BUENA PARK, CA. 90621, USA
TEL : (714)562-5151

English

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Caution

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Warning

If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Canadian Notice

This Class B digital apparatus meets all requirements of the Cannadian Interference Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Notice

The information contained in this document is subject to change without notice.

▣ Package

First, we would like to thank you for your purchase of this monitor. This monitor is 19inch, high resolution, color display monitor. This manual covers the use, and points of caution, when operating this monitor.
Please take the time to read this manual so that you will obtain the best performance and most use from your monitor. After reading the manual, store it in a safe place for future reference.

This items illustrated below are contained in the carton.
First, be sure that your carton includes the following items.
If any items are missing or damaged, please contact your local dealer or supplier.

■ B19AL
- Color Monitor
- AC Power input cable
- User's Manual (Warranty Registration Card)
- Signal Cable (15pin 3layer D-sub)

▣ Features

■ 19-inch(18 inch visual)high performance display color monitor

■ Automatically scans frequencies from
- Horizontal frequency: 30 to 96KHz
- Vertical frequency: 47 to 150Hz

■ Compatible with VGA, SVGA, VESA, MAC Standards and maximum resolution modes up to 1600 ×1200.

■ Supports VESA flicker free modes including 85Hz refresh rate.

■ On Screen menu fingertip control system to visually select and adjust screen images using 6 buttons on front panel and on screen menus.

■ Power supply operates on AC100~240Volt 60/50Hz for use all over the world.

■ Equipped with DDC 1/2B for Plug & Play capability.

■ Equipped with an energy-saving feature.
Power management circuit when signaled by the computer system, will reduce power consumption when the computer system is not in use.

■ Monitors with nonglare/antistatic screens are compliant with MPR 1990 Emissions standards and meets requirements for CE Marking.
※ TCO : (option)

▣ Safety information

- Provided with this monitor is a detachable power supply cord with IEC320 style terminations. It may be suitable for connection to any UL listed personal computer with similar configuration. Before making the connection ensure that the voltage rating of the computer convenience outlet is the same as the monitor and that the ampere rating of the computer convenience outlet is equal to or exceeds the monitor current rating.
  For 120Volt applications use only UL listed detachable power cord with NEMA configuration 5-15P type(parallel blades) plug cap.
  For 240Volt applications use only UL listed detachable power cord with NEMA configuration 6-15P type(tandem blades) plug cap.

- Use only a power source and connection appropriate for the monitor as indicated on the marking label.

- Slots and openings in the cabinet are provided for ventilation;
  these openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.

- Never insert anything metallic into the monitor openings.
  Doing so may create a danger of electric shock.

- To avoid electric shock, never touch the inside of the monitor.
  Only a qualified technician should open the monitor's case.

- Unplug the monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp, lint-free cloth for cleaning.

- Install the monitor near an outlet that you can reach easily. Disconnect the product by grasping the plug firmly and pulling in from the outlet.
  Never disconnect it by pulling the cord.

▣ Power management system

This monitor meets VESA(Video Electronics Standards Association) DPMS(Display Power Management Signalling)standards. In order for the monitor's power saving feature to function, the video board or computer must also meet VESA® DPMS™ standards.

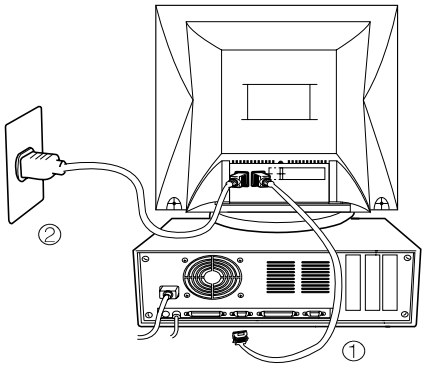
■Power management table

State / Sync	Normal Operation	Power saving function mode		
		Standby	Suspend Mode	Power-Off Mode
Horizontal	Active	Inactive	Active	Inactive
Vertical	Active	Active	Inactive	Inactive
Video	Active	Blanked	Blanked	Blanked
LED Color	Green	Green/AMBER	AMBER	AMBER Blinking
Power Consumption	120W	Less than 80% of MAX	Less than 15W	Less than 8W

Note : The monitor automatically goes through the DPMS steps when it is idle.
To release the monitor from the DPMS condition, press any key on the keyboard.

▣ Connection to your computer

⚠ **CAUTION**
Ensure that both the PC and the display monitor are switched off.



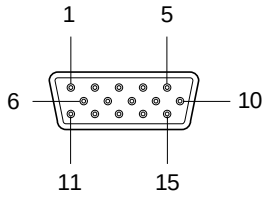
To attach the monitor to your system, as shown in the following illustrations.

1. Connect the signal cable ① to the 15pin graphics connector of the system and tighten the fastening screws.
2. Insert the AC power cord ② into monitor and then into an AC power outlet.
3. To turn on the monitor, push the power switch.

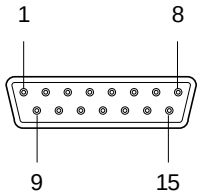
Note : To attach the monitor to the Macintosh system, please contact an authorized dealer.(Need to use a special adaptor)

▣ Pin assignment table D-Sub Mini 15pin connector

Pin No.	15 Pin D-Sub	Macintosh
1	Red Video	Red Ground
2	Green Video	Red Video
3	Blue Video	H/V Sync
4	Frame Ground	Sense (0)
5	N.C	Green Video
6	Red Ground	Green Ground
7	Green Ground	Sense (1)
8	Blue Ground	N.C
9	N.C	Blue Video
10	Sync. Ground	Sense (2)
11	Ground	Ground
12	SDA	V-Sync.
13	H-Sync.	Blue Ground
14	V-Sync.	Ground
15	SCL	H-Sync.



(15 Pin D-Sub)

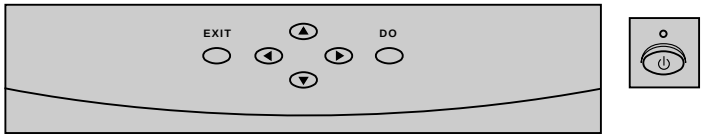


(Macintosh Adaptor)

▣ Function of controls

OSD Controls

"ON SCREEN MENU" controls include the following extended controls such as Size, Position, Geometry Distortion, Color temp, Degauss, Moire on & off, Language, OSD-Position, Recall, Cont & Brt, etc.



Function of OSD buttons on the front of the monitor

- DO : In the main menu, proceeds to the selected menu .
  In a submenu, proceeds to the control in that sub-menu.
- Controls ▲/▼ : Move the function to select one of the controls.
- Controls ◀/▶ : In the main menu, moves the fuction to select one of the controls.
  In a submenu, moves the bar in the ◀ or ▶ direction to increase or decrease the adjustment.
- EXIT : In the main menu, exit the OSD controls. In a submenu, exit to the OSD main menu.

Additional up front controls

※ Power Switch : Turns the monitor power on or off, When the power is on, the LED is lit.

Accessing on screen menu

Press DO Button.

- Controls ▲/▼ : Direct Brightness access.
- Controls ◀/▶ : Direct Contrast access.

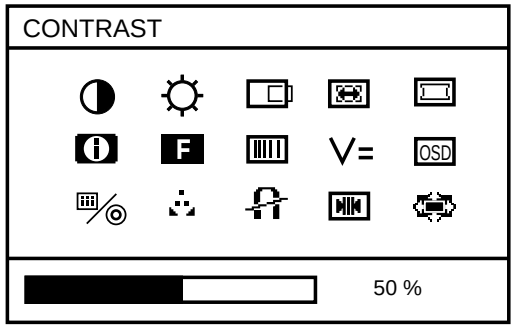
Turning off on screen menu

When in the main menu, press exit button.
When in submenus, press the exit button twice.

▣ OSD Menus

Main Menu

"ON SCREEN MENU"s Main Menu of Controls gives you an overview of the selection of controls available.

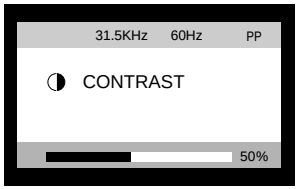


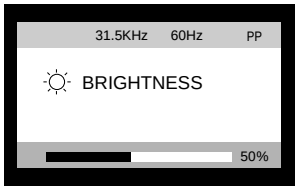
Use the ▲/▼ or ◀/▶ : Control buttons to scroll through all of the menus.

Main Menu control guide

- EXIT : Exit the OSD controls.
- Controls ▲/▼ : Move the function to choose.
- Controls ◀/▶ : Move the function to choose.
- DO : Proceed to the selected menu choice.

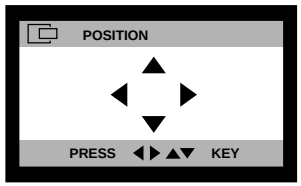
Contrast & Brightness Menu





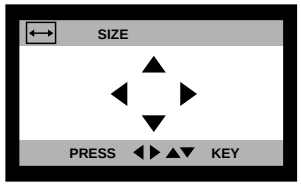
- EXIT : Exit the Brightness or Contrast menu.
- Cursor ▲/▼ : Increase or decrease the Brightness
- Cursor ◀/▶ : Increase or decrease the Contrast.

Position Menu



▲/▼ : Move the image vertically up or down.
◀/▶ : Move the image horizontally left or right.

Size Menu

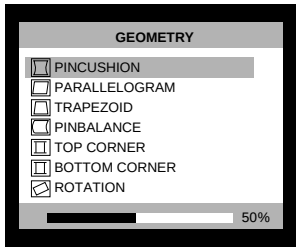


▲/▼ : Increase or decrease the vertical size of the image.
◀/▶ : Increase or decrease the horizontal size of the image.

Position and Size Menu control guide

- EXIT : Exit to the main menu.
- Controls ▲/▼ : Refer to Tall/Short (or ▲/▼)
- Controls ◀/▶ : Refer to Narrow/Wide (or ◀/▶)
- DO : Toggle position and size menu directly.

Geometry Controls Menu



The Geometry controls allow you to adjust the curvature or angle of displayed image.

- Pincushion : Increase or decrease the curvature of the sides either inward or outward.
- Parallelogram : Increase or decrease the tilt of the sides either to the left or right.
- Trapezoid : Increase or decreases the bottom of the screen to be the same as the top.
- Pin Balance : Increase or decrease the curvature of the sides.
- Top Corner : Increase or decreases the curvature of the top sides.
- Bottom Corner : Increase or decrease the curvature of the bottom sides.
- Rotation : Rotate the entire display clockwise or counterclockwise.

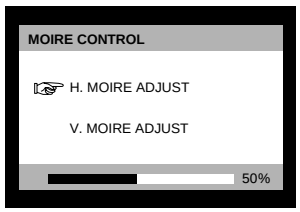
Geometry Menu Control Guide

- EXIT : Exite to the main menu.
- Controls ▲/▼ : Move the function to choose.
- Controls ◀/▶ : Move the bar in the ◀ or ▶ direction to increase or decrease the adjustment.

Language Menu

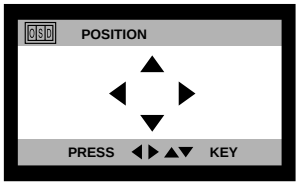
▲/▼ : Select the language using ▲/▼ key.

Moire Control



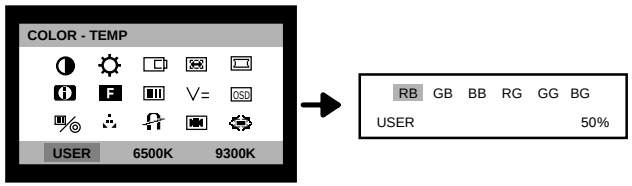
▲/▼ : Select the H.Moire or V.Moire Adjust.
◀/▶ : Adjust the Moire

OSD Position Menu



▲/▼ : Moves the OSD Position vertically up or down.
◀/▶ : Moves the OSD Position horizontally left or right.

Color Adjust Controls Menu



- EXIT : Exit to the main menu.
- Controls ▲/▼ : Increase or decrease the Selected color adjustment.
- Controls ◀/▶ : Move the bar in the ◀ or ▶ direction to select the color setting (USER, 6500K, 9300K).
- DO : Proceed to the selected Submenu choice (Press DO button for 5 seconds).
- Presetting : Select the desired color setting. The bar is replaced by the color setting choice "USER, 6500K or 9300K" Each color setting is adjusted at user mode to choose degree or Kelvin.

Controls	ICON	Function
Information	F	This control shows the Factory and user mode information.
Video Level	V=	This control allows the video input level selection applied by signal source. (0.7Vp-p/1.0Vp-p)
D-Sub/BNC		This control allows the video input type selection. (BNC/D-SUB)
Degauss		This control removes the build-up of magnetic fields that can affect color purity and convergence. **Note** : The picture shakes while degaussing is taking place. After internal degaussing the circuitry takes about 30 minutes to regain its maximum power.
Recall		This controls recalls certain factory setting such as size, position, geometry and color by pressing DO button. If the monitor is operation in a user mode, this controls has no effect.
Zoom Menu		◀/▶ : Increase or decrease the Vertical and Horizontal size of image at the same time.

▣ Troubleshooting guide

If your monitor is not performing properly, please use the following troubleshooting chart for quick solutions to common problems.

Problem	Possible cause	Remedy
No Picture	Is the power cord connected?	Connect power cord.
	Is the power switch on?	Turn on power switch.
	Is the signal cable properly connected?	Connect signal cable properly
	Is the monitor in the power save mode?	Press any key on the keyboard or move the mouse.
Picture is unstable	Is the signal cable properly connected?	Connect signal cable properly
	Are there signals which are outside of the required frequency range?	Input signals which are within the range of the monitor.
	Is the signal connector pin assigments correct?	Use correct signal connector.
The display image is not centered, too small or large.	Are there signals which are outside of the required frequency range?	Use correct signal which within the frequency range of the monitor(If the signal is correct, adjust the controls to desired image.)
The color of image on screen is abnormal.	Is the magnetic object nearby?	Move object far away.
	Is the pin arrangement of the signal connector correct?	Use correct signal cable. Use degauss control.

▣ Electrical Specifications

ITEM		B19AL
CRT Type		19″, 90° deflection, FST
CRT Dot pitch		0.26mm (0.22 in Hor.)
CRT Surface		Non-glare, ARASC
Input Signal	Sync	H/V Separate, TTL, positive/negative H/V Composite, TTL, positive/negative
	Video	RGB Analog (0.7Vp-p), positive 75 Ω Terminated
Scanning frequency	Horizontal	30KHz~96KHz (Automatically)
	Vertical	47Hz~150Hz (Automatically)
Maximum Resolution		1600Dots ×1200Lines (Non-interlace)
Pixel Clock(Max.)		202.5 MHz
Display Size (Standard)		Horizontal 350mm, Vertical 262mm
Power Consumption		120 W
Power Supply		AC 100~240Volt 50/60Hz ±3Hz
Input Connector		D-Sub, 15Pin Connectors
Display Colors		Unlimited

▣ Mechanical Specifications

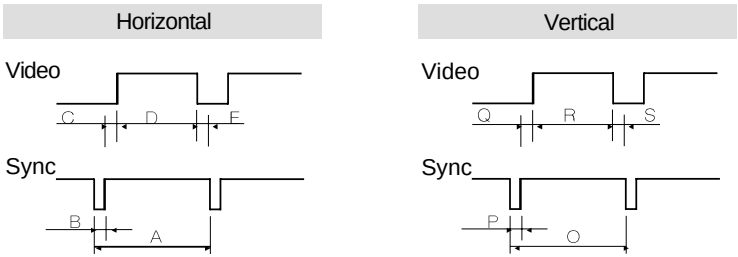
ITEM		B19AL
Dimension	Unit	18.5″(W) ×18.9″(D) ×18.5″(H) 470mm(W) ×487mm(D) ×470mm(H)
	Carton	21.6″(W) ×22.6″(D) ×22.4″(H) 548mm(W) ×574mm(D) ×568mm(H)
Weight	Net	23.1Kg (50.9lbs)
	Gross	28.1Kg (61.9lbs)

▣ Environmental Specifications

ITEM		B19AL
Temperature	Operating	32°F to 104°F (0°C to 40°C)
	Storage	-4°F to 140°F (-20°C to 60°C)
Humidity		10% to 85% R.H. Non-condensing

▣ Preset Timings

This Monitor B19AL has preset modes for the 14 most popular industry standards for "Plug and Play" capability.



Resolution / Timing	IBM		VESA				
	VGA/70Hz	VGA/60Hz	640/75Hz	640/85Hz	800/75Hz	800/85Hz	1024/75Hz
	720 ×400	640 ×480	640 ×480	640 ×480	800 ×600	800 ×600	1024 ×768
H-Freq	31.469	31.469	37.5	43.269	46.875	53.674	60.023
A㎲ec	31.777	31.777	26.667	23.111	21.333	18.631	16.660
B㎲ec	3.813	3.813	2.032	1.556	1.616	1.138	1.219
C㎲ec	1.907	1.907	3.81	2.222	3.232	2.702	2.235
D㎲ec	25.422	25.422	20.317	17.778	16.162	14.222	13.003
E㎲ec	0.636	0.636	0.508	1.556	0.323	0.569	0.203
V-Freq	70.09	59.94	75	85.008	75	85.061	75.029
Omsec	14.268	16.684	13.333	11.764	13.333	11.756	13.328
Pmsec	0.064	0.064	0.08	0.069	0.064	0.056	0.050
Qmsec	1.08	1.048	0.427	0.578	0.448	0.503	0.466
Rmsec	12.711	15.253	12.8	11.093	12.8	11.179	12.795
Smsec	0.413	0.318	0.027	0.023	0.021	0.019	0.017
Pixel rate	28.322	25.175	31.500	36	49.5	56.25	78.750
H-Polarity	Negative	Negative	Negative	Negative	Positive	Positive	Positive
V-Polarity	Positive	Negative	Negative	Negative	Positive	Positive	Positive

Resolution / Timing	VESA				MACINTOSH		
	1024/85Hz	1280/75Hz	1280/85Hz	1600/75Hz	640/67Hz	832/75Hz	1152/75Hz
	1024 ×768	1280 ×1024	1280 ×1024	1600 ×1200	640 ×480	832 ×624	1152 ×870
H-Freq	68.677	79.976	91.146	93.75	35	49.726	68.681
A㎲ec	14.561	12.504	10.971	10.667	28.571	20.11	14.560
B㎲ec	1.016	1.067	1.016	0.948	2.116	1.117	1.280
C㎲ec	2.201	1.837	1.422	1.501	3.175	3.91	1.440
D㎲ec	10.836	9.481	8.127	7.901	21.164	14.524	11.520
E㎲ec	0.508	0.119	0.406	0.316	2.116	0.559	0.320
V-Freq	84.997	75.025	85.024	75.000	66.667	74.551	75.062
Omsec	11.765	13.329	11.761	13.333	15	13.414	13.322
Pmsec	0.044	0.038	0.033	0.032	0.086	0.06	0.044
Qmsec	0.524	0.475	0.579	0.491	1.114	0.784	0.568
Rmsec	11.183	12.804	11.235	12.800	13.714	12.549	12.667
Smsec	0.015	0.013	0.011	0.011	0.086	0.02	0.044
Pixel rate	94.5	135	157.5	202.5	30.24	57.284	100
H-Polarity	Positive	Positive	Positive	Positive	Negative	Negative	Negative
V-Polarity	Positive	Positive	Positive	Positive	Negative	Negative	Negative